

Date: Monday, 14/04/2008 1:06:53 PM  
 User: Julie Lecocq

## Process Sheet

|  |  |
|--|--|
| <b>Customer</b> : CU-DAR001 Dart Helicopters Services  | <b>Drawing Name</b> : SKID TUBE ASSEMBLY                   |
| <b>Job Number</b> : 38586A   |  |
| <b>Estimate Number</b> : 10023   |  |
| <b>P.O. Number</b> :   | <b>Part Number</b> : D205634041                            |
| <b>This Issue</b> : 14/04/2008 <b>S.O. No.</b> :   | <b>Drawing Number</b> : D2580 REV D                        |
| <b>Prsht Rev.</b> : NC   | <b>Project Number</b> : N/A                                |
| <b>First Issue</b> : / / <b>Type</b> : LANDING GEAR  | <b>Drawing Revision</b> : D                                |
| <b>Previous Run</b> : 38585A   | <b>Material</b> :  |
| <b>Written By</b> :  | <b>Due Date</b> : 30/04/2008 <b>Qty:</b> 1 <b>Um:</b> Each |
| <b>Checked &amp; Approved By</b> : <u>JLD 08.4.14</u>  |  |
| <b>Comment</b> : Est Rev:N 02.08.28 FP was QC5 in Step 27; Added QC5 to Step 30 KJ<br>Est Rev. O 06.02.28 Added paperwork EC<br>Est Rev:P 07-07-09 SS Wearplates & Gaskets JLM |  |

## Additional Product

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

|     |    |                  |
|-----|----|------------------|
| 1.0 | DC | DOCUMENT CONTROL |
|-----|----|------------------|



**Comment:** DOCUMENT CONTROL  
 Photocopy D205-634 bluefile & type labels per PPP D205-634 CHG002

0281051051 08.4.21  
 JLD

|     |           |                        |
|-----|-----------|------------------------|
| 2.0 | D25001190 | Ext'n -1" Beam Tube 4" |
|-----|-----------|------------------------|



**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)  
 Pick:

| Qty | Part Number | Description         | Batch   |
|-----|-------------|---------------------|---------|
| 1   | D2500-1-190 | Skid Tube Extrusion | B-34729 |

AWM 8-4-17

|     |       |                   |
|-----|-------|-------------------|
| 3.0 | D2596 | Web, 205 Skidtube |
|-----|-------|-------------------|



**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)  
 Pick:

| Qty | Part Number | Description | Batch   |
|-----|-------------|-------------|---------|
| 1   | D2596       | 205 Web     | B-38642 |

AWM 8-4-21

|     |             |                       |
|-----|-------------|-----------------------|
| 4.0 | SKIDTUBES 1 | SKIDTUBESS RESOURCE 1 |
|-----|-------------|-----------------------|



**Comment:** LANDING GEAR RESOURCE 1

1-Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2580 if necessary Deburr ends

3-Acid etch and Alodine tube per QSI 005 4.1

AWM 8-4-18

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                                |                                 |                |                           |                       |                          |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action<br>Section B |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng           | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |
|      |      |                                  |                                |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Monday, 14/04/2008 1:06:53 PM  
User: Julie Leçocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38586A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

BE 08/04/08

6.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Drill pilot holes using drill jig DT 8149(Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580without cutting fluid

3-Countersink holes as per Dwg D2580without cutting fluid

4-Deburr and blow out all chips from inside of tube

5-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty Part Number Description Batch

A/R Sikaflex-291 17107397

Sikaflex expire date: 8-10-01

Start Time: 7:40 Date: 8-4-21

Fin Time: 11:00AM Date: 8-4-22

- AWM

8-4-21

7.0

BENDING

8/4/25

BENDING MACHINE SKIDTUBES



Comment: BENDING MACHINE

1-Bend as per program D2580.C on CNC Bender and Folio FT009

2-Cut tubes as per Dwg. D2580

EL/SD 8-4-22

8.0

SKIDTUBES 1

SKIDTUBESS RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Deburr ends

2-Prepare tube for welding, remove alodine as required.

45 08-04-23

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38586A

Part Number: D205634041

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

|     |     |                              |
|-----|-----|------------------------------|
| 9.0 | QC5 | INSPECT WORK TO CURRENT STEP |
|-----|-----|------------------------------|



Comment: INSPECT WORK TO CURRENT STEP

*S 08/04/25*

|      |        |                         |
|------|--------|-------------------------|
| 10.0 | D25763 | Step (Machining Detail) |
|------|--------|-------------------------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Pick:

| Qty | Part Number | Description | Batch          |
|-----|-------------|-------------|----------------|
| 1   | D2576-3     | Step        | <i>B 33321</i> |

*BE 08/05/05*

|      |       |                  |
|------|-------|------------------|
| 11.0 | D2579 | Crossbolt Spacer |
|------|-------|------------------|



Comment: Qty.: 20.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick:

| Qty | Part Number | Description | Batch          |
|-----|-------------|-------------|----------------|
| 20  | D2579       | Spacers     | <i>B 38393</i> |

*BE 08/05/05*

|      |             |                              |
|------|-------------|------------------------------|
| 12.0 | LARGE FAB 1 | LARGE FABRICATION RESOURCE 1 |
|------|-------------|------------------------------|



Comment: LARGE FABRICATION RESOURCE 1

2-Weld step D2576 as per Dwg. D2580 and QSI 004

A/R Aluminum Rod

*m107263*

*BE 08/05/05*

3-Weld crossbolt spacers D2579 as per Dwg. D2580 and QSI 004.

For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill

A/R Aluminum Rod

*m107263*

*BE 08/05/05*

4-Grind welds as per Dwg D2580 Grind flush ridge made from bending

5-Drill holes for wearplates using DT 8217 & DT8937 Open holes to 19/64", adjust stopper not to hit web. Debur

6-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2580. Debur holes

7-Drill pilot holes for aft cap using DT 8215 Open holes to 0.208". Debur

8-Drill pilot holes for Tow ring using DT8091, open to .640" and Debur

*LD*  
*8-5-5*  
*SL 8-5-6*

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38586A

Part Number: D205634041

Job Number:



Seq. #: Machine Or Operation: Description :

13.0 QC10 VISUAL INSPECTION OF GROUND WELDS



Comment: VISUAL INSPECTION OF GROUND WELDS

08/05/06 (X)

14.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

08/05/06 (X)

15.0 HAND FINISHING1 HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1  
Pressure wash as per QSI 005

08-05-08

16.0 POWDER COATING POWDER COATING



Comment: POWDER COATING  
Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

M107550

08-05-08

17.0 QC3 INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

08/06/08

18.0 D2855 Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)  
Cap  
Batch: B37570

FL

19.0 AN35A Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)  
Bolt  
Batch: M100188

FL

20.0 AN960JD10L Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)  
Washer  
Batch: M104885

FL 08/05/08

B38586A  
D205634041  
08/05/2008  
07.54  
S.209  
#1 324.3 F  
#2  
#3 30mir F  
#4 F

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |  |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|--|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |  |
|      |      |                    |  |    |      |     |                                     |                          |  |
|      |      |                    |  |    |      |     |                                     |                          |  |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries



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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38586A

Part Number: D205634041

Job Number:



Seq. #: Machine Or Operation: Description :

21.0 ALS71032130 Insert



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

Insert

Batch: m105819

*FDL*

22.0 AN3C4A BOLT



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

BOLT

Batch: m107242

*FDL*

23.0 AN960C10L washer



Comment: Qty.: 50.0000 Each(s)/Unit Total : 50.0000 Each(s)

washer

Batch: m107736

*FDL*

24.0 D356613 GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B32744

*FDL*

25.0 D35665 GASKET



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

GASKET

Batch: B38647

*FDL*

26.0 D35661 GASKET



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

GASKET

Batch: B38410

*FDL*

27.0 D356413 WEARSHOE



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B38047

*FDL 08/05/08 ①*

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Monday, 14/04/2008 1:06:53 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38586A

Part Number: D205634041

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

|      |         |          |
|------|---------|----------|
| 28.0 | D356411 | WEARSHOE |
|------|---------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B38548

FL

|      |        |          |
|------|--------|----------|
| 29.0 | D35649 | WEARSHOE |
|------|--------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B38408

FL

|      |        |          |
|------|--------|----------|
| 30.0 | D35645 | WEARSHOE |
|------|--------|----------|



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

WEARSHOE

Batch: B38409

FL

|      |        |        |
|------|--------|--------|
| 31.0 | D25943 | O-Ring |
|------|--------|--------|



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

O-Ring

Batch: B29908

FL

|      |        |      |
|------|--------|------|
| 32.0 | D25941 | Plug |
|------|--------|------|



Comment: Qty.: 16.0000 Each(s)/Unit Total : 16.0000 Each(s)

Plug

Batch: B37419

FL

|      |                 |                            |
|------|-----------------|----------------------------|
| 33.0 | HAND FINISHING1 | HAND FINISHING RESOURCE #1 |
|------|-----------------|----------------------------|



Comment: HAND FINISHING RESOURCE #1

1-Install inserts & wearplates & Gaskets as per Dwg. D2580. Use a drop of Sikaflex on insert holes before installing wearplates

A/R

Sikaflex-291

Sikaflex expire date: 08/10

m107804

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2580

3-Inspect for foreign object per QSI 024

FL 08/05/08

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |           |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|-----------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng |           | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |

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Drawing Name: SKID TUBE ASSEMBLY

Job Number: 38586A

Part Number: D205634041

Job Number:



Seq. #:

Machine Or Operation:

Description :

4-Install 2855 Aft Cap as per Dwg D2580 and seal Fwd Step & Aft Cap with Sikaflex. Clean excess adhesive

A/R Sikaflex-291

Sikaflex expire date: 08/10

5-Wing Walk as per Dwg D2580 and QSI 005 4.4

Batch:

M 107380

m-h

08/05/08

(1X)

FL 08/05/08

34.0

QC5

INSPECT WORK TO CURRENT STEP



S 08/05/08



Comment: Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024

35.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-041

Location:

PPP Rev:

H

08/05/08

(1)

36.0

QC21

FINAL INSPECTION/W/O RELEASE



08/05/08

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



u 08.05.08

38586A

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |           |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|-----------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng |           | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |

NOTE: Date & initial all entries

**DART**

|                  |                |  |                        |
|------------------|----------------|--|------------------------|
| DESIGN<br>#      | DRAWN BY<br>RH | <b>DART AEROSPACE LTD</b><br>HAWKESBURY, ONTARIO, CANADA   |                        |
| CHECKED<br>#     | APPROVED<br>#  | DRAWING NO.<br>D2580                                       | REV. D<br>SHEET 1 OF 3 |
| DATE<br>07.02.27 |                | TITLE<br>205 SKIDTUBE ASSEMBLY                             | SCALE<br>NTS           |
| A                | 96.09.16       | NEW ISSUE  |                        |
| B                | 96.12.02       | AS MANUFACTURED  |                        |
| C                | 98.08.26       | REDRAWN, INCLUDED DEO 9094/9097                            |                        |
| D                | 07.02.27       | CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183 |                        |

**RELEASED**  
07-06-28 #

| QTY<br>-041 | QTY<br>-045 | Part Number   | Description       |
|-------------|-------------|---|-------------------|
| X           |             | D2580-041   | SKIDTUBE ASSEMBLY |
|             | X           | D2580-045   | SKIDTUBE ASSEMBLY |
|             |             |   |                   |
| 1           | 1           | D2500-1-190   | EXTRUSION         |
| 1           | 1           | D2576-3   | STEP              |
| 20          | 24          | D2579   | CROSS BOLT SPACER |
| 16          | 16          | D2594-1   | PLUG              |
| 16          | 16          | D2594-3   | O-RING            |
| 1           | 1           | D2596   | 205 WEB           |
| 1           | 1           | D2855   | AFT CAP           |
| 1           | 1           | D3564-5   | WEARSHOE          |
| 1           | 1           | D3564-9   | WEARSHOE          |
| 1           | 1           | D3564-11  | WEARSHOE          |
| 1           | 1           | D3564-13  | WEARSHOE          |
| 2           | 2           | D3566-1   | GASKET            |
| 1           | 1           | D3566-5   | GASKET            |
| 1           | 1           | D3566-13  | GASKET            |
|             |             |   |                   |
| 50          | 50          | ALS7-1032-130<br>or AKS7-1032-130<br>or AKS4-1032-130<br>or AELS-1032-130 | INSERT            |
| 50          | 50          | AN3C4A  | BOLT              |
| 2           | 2           | AN3-5A  | BOLT              |
| 50          | 50          | AN960C10L   | WASHER            |
| 2           | 2           | AN960JD10L  | WASHER            |

**GENERAL NOTES:**

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.  
USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 5) WELDING TO BE DONE PER DART QSI 004.
- 6) FINISH:  
SEE NOTES ON  
PAGE 2 FOR D2580-041 AND  
PAGE 3 FOR D2580-045
- 7) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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Date: Monday, 14/04/2008 1:06:37 PM  
 User: Julie Lecocq

## Process Sheet

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : SKIDTUBE ASSEMBLY  
 Job Number : 38586  
 Estimate Number : 10022  
 P.O. Number :  
 This Issue : 14/04/2008 S.O. No. :  
 Prsht Rev. : NC  
 First Issue : // Type : LANDING GEAR  
 Previous Run : 38585  
 Written By :  
 Checked & Approved By : JLO 08.4.14  
 Comment : Est Rev:P 02.08.28 Removed QC5 from Step 5 KJ

Part Number : D205634011  
 Drawing Number : N/A  
 Project Number : N/A  
 Drawing Revision : N/A  
 Material :  
 Due Date : 30/04/2008 Qty: 1 Um: Each

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description :

1.0 DC DOCUMENT CONTROL



Comment: DOCUMENT CONTROL  
 Photocopy bluefile & type labels per PPP D205-634-011 CHG005

2.0 38586A SKID TUBE ASSEMBLY



Comment: Sub-Component SKID TUBE ASSEMBLY  
 D205-634-041 B

3.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1  
 Pick Packing Kit

4.0 K10003 Saddle, D205-634-011



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)  
 Pick:  
 Qty Part Number Description Batch  
 1 K10003 Saddle Kit

5.0 QC4 INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS



| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |           |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|-----------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 | Section B |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng |           | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |
|      |      |                                  |                      |                                 |           |                |                           |                       |                          |

NOTE: Date & initial all entries

Date: Monday, 14/04/2008 1:06:37 PM  
User: Julie Lecocq

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SKIDTUBE ASSEMBLY

Job Number: 38586

Part Number: D205634011

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D205-634-011

Location: \_\_\_\_\_

7.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



*U 08.05.08*

| W/O: |      | WORK ORDER CHANGES |  |    |      |     |                                     |                          |
|------|------|--------------------|--|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE   |  | By | Date | Qty | Approval<br>Chief Eng /<br>Prod Mgr | Approval<br>QC Inspector |
|      |      |                    |  |    |      |     |                                     |                          |
|      |      |                    |  |    |      |     |                                     |                          |

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

| NCR: |      | WORK ORDER NON-CONFORMANCE (NCR) |                      |                                 |                |                           |                       |                          |
|------|------|----------------------------------|----------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC<br>Section A   | Corrective Action    |                                 |                | Verification<br>Section C | Approval<br>Chief Eng | Approval<br>QC Inspector |
|      |      |                                  | Initial<br>Chief Eng | Action Description<br>Chief Eng | Sign &<br>Date |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |
|      |      |                                  |                      |                                 |                |                           |                       |                          |

NOTE: Date & initial all entries

## 5.0 PARTS LIST

| Item | 634<br>-011 | 634<br>-015 | 634<br>-041 | 634<br>-045 | 641<br>-011 | Part Number   | Description                      |
|------|-------------|-------------|-------------|-------------|-------------|---------------|----------------------------------|
|      | X           |             |             |             |             | D205-634-011  | SKIDTUBE INSTALLATION (STANDARD) |
|      |             | X           |             |             |             | D205-634-015  | SKIDTUBE INSTALLATION (MODIFIED) |
|      | 1           |             | X           |             |             | D205-634-041  | SKIDTUBE                         |
|      |             | 1           |             | X           |             | D205-634-045  | SKIDTUBE                         |
|      | 1           | 1           |             |             | X           | D205-641-011  | GROUND HANDLING KIT              |
| 1    |             |             | 1           |             |             | D2580-041     | 205 SKIDTUBE ASSEMBLY (STANDARD) |
| 1    |             |             |             | 1           |             | D2580-045     | 205 SKIDTUBE ASSEMBLY (MODIFIED) |
| 2A   |             |             | 16          | 16          |             | D2594-1       | * PLUG                           |
| 2B   |             |             | 16          | 16          |             | D2594-3       | * O-RING                         |
| 3    |             |             | 1           | 1           |             | D2855         | * AFT CAP                        |
| 4    |             |             | 2           | 2           |             | AN3-5A        | * BOLT                           |
| 5    |             |             | 2           | 2           |             | AN960JD10L    | * WASHER                         |
| 6A   |             |             | 1           | 1           |             | D3564-9       | * WEARSHOE (REPLACES D2577-1)    |
| 6B   |             |             | 1           | 1           |             | D3566-1       | * GASKET                         |
| 7A   |             |             | 1           | 1           |             | D3564-11      | * WEARSHOE (REPLACES D2577-3)    |
| 7B   |             |             | 1           | 1           |             | D3566-1       | * GASKET                         |
| 8A   |             |             | 1           | 1           |             | D3564-5       | * WEARSHOE (REPLACES D2577-5)    |
| 8B   |             |             | 1           | 1           |             | D3566-5       | * GASKET                         |
| 9A   |             |             | 1           | 1           |             | D3564-13      | * WEARSHOE                       |
| 9B   |             |             | 1           | 1           |             | D3566-13      | * GASKET                         |
| 10   |             |             | 50          | 50          |             | AN3C4A        | * BOLT (REPLACES AN3-4A)         |
| 11   |             |             | 50          | 50          |             | AN960C10L     | * WASHER (REPLACES AN960JD10L)   |
| 12   |             |             | 50          | 50          |             | ALS4-1032-130 | * INSERT                         |
| 13   |             |             | 2           | 2           |             | ALS4-1032-225 | * INSERT                         |
| 20   | 1           | 1           |             |             |             | D2571         | SADDLE, FWD OUTSIDE              |
| 21   | 1           | 1           |             |             |             | D2572         | SADDLE, FWD INSIDE               |
| 22   | 1           | 1           |             |             |             | D2573         | SADDLE, AFT OUTSIDE              |
| 23   | 1           | 1           |             |             |             | D2574         | SADDLE, AFT INSIDE               |
| 24   | 8           | 8           |             |             |             | AN4-51A       | BOLT                             |
| 25   | 16          | 16          |             |             |             | D2570         | BUSHINGS                         |
| 26   | 8           | 8           |             |             |             | MS21042L4     | NUT (OR MS21042-4)               |
| 27   | 8           | 8           |             |             |             | AN6-12A       | BOLT                             |
| 28   | 8           | 8           |             |             |             | AN960JD616    | WASHER                           |
| 29   | 16          | 16          |             |             |             | AN4-6A        | BOLT                             |
| 30   | 32          | 32          |             |             |             | AN960JD416    | WASHER                           |
| 31   | 16          | 16          |             |             |             | MS21042L4     | NUT (OR MS21042-4)               |
| 32   | 4           | 4           |             |             |             | D2747         | SET SCREW                        |
| 33   | 2           | 2           |             |             |             | D3533-1       | SET SCREW                        |
| 40   | 1           | 1           |             |             |             | D2968-041     | TOW RING                         |
| 41   | 1           | 1           |             |             |             | AN970-4       | WASHER                           |
| 43   | 1           | 1           |             |             |             | MS21042L4     | NUT (OR MS21042-4)               |
| 50   |             |             |             |             | 1           | D2736-1       | GHW LUG                          |
| 51   |             |             |             |             | 1           | D2736-3       | GHW LUG                          |
| 52   |             |             |             |             | 4           | AN4-46A       | BOLT                             |
| 53   |             |             |             |             | 8           | D2570         | BUSHING                          |
| 54   |             |             |             |             | 4           | MS21042L4     | NUT (OR MS21042-4)               |
| 60   | 2           | 2           |             |             |             | D2876         | SADDLE SPACER                    |
| 61   | 2           | 2           |             |             |             | D2877         | SADDLE SPACER                    |

\*DENOTES THAT PART IS INCLUDED WITH ASSEMBLY ABOVE

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Revision: D

Date: 07.04.10

NO. 149

AWS D17.1.2001  
QUALIFICATION TEST RECORD

Name: Barclay Elliot  
Job number: 383973  
Part number: D205 634 041  
Description: skid tube 205  
Welding Process: Tig ☒ Mig ☐  
Base material: Aluminium  
Current: AC ☒ DC ☐

TEST REQUIREMENTS AND RESULTS

Visual: pass ☒ fail ☐  
Penetration: pass ☒ fail ☐

UNACCEPTABLE

Cracks: pass ☒ fail ☐  
Undercut: pass ☒ fail ☐  
Pin holes: pass ☒ fail ☐  
Overlap (cold lap): pass ☒ fail ☐  
Porosity (surface): pass ☒ fail ☐  
Coloration: pass ☒ fail ☐

Qualifier Pat Duval Date of Test Coupon 08-04-18  
Welder Barclay Elliot Date of Test Coupon 08-04-18

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

RELEASED  
07-06-28

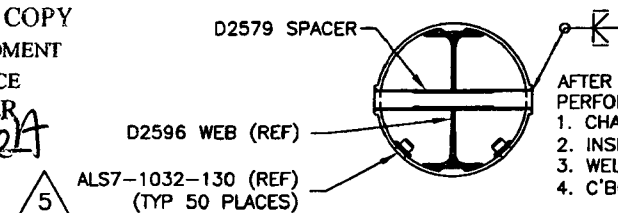
Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the component with the following labels and features:

- GRIND FLUSH (4 PLACES)**: Indicated by four small circles on the inner surface of the component.
- GRIND FLUSH**: Indicated by a small circle on the outer surface of the component.
- D2576-3 STEP**: Indicated by a line pointing to the outer edge of the component.
- LOCATION RIDGE ON UNDERSIDE OF D2576**: Indicated by a line pointing to the bottom edge of the component.
- 1/4**: A dimension line indicating the thickness of the component.

Diagram illustrating the assembly of a circular component with a central hole and a rectangular slot. The diagram includes the following annotations:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)
- SEAL WITH SIKAFLEX-241/-29
- AN3-5A BOLT (1)
- AN960JD10L WASHER (1) (2 PLACES)
- D2855 CAP
- 0.40

**SECTION D-D**  
SCALE 5:24



AFTER DRILLING AND BENDING ASSEMBLY  
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

37.50  
DISTANCE TO AFT END  
OF D2596 WEB  
3 7

1.750 1.750

Ø0.508 (TYP.)  
(40 PLACES)

REFER TO DETAIL A

8.750 17.375 26.000 34.188

57.313 (REF)  
7 EQUAL SPACES  
8.188 PITCH

38.0 91.500 190.0  
(D2500-1)

0.5

1.5

1.5

D

P P P P P P P

8

1.5

1.5

1.5

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

REFER TO DETAIL C

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9

D3564-13

AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

|        |    |          |  |
|--------|----|----------|--|
| DESIGN | JJ | DRAWN BY |  |
|--------|----|----------|--|

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REV. D

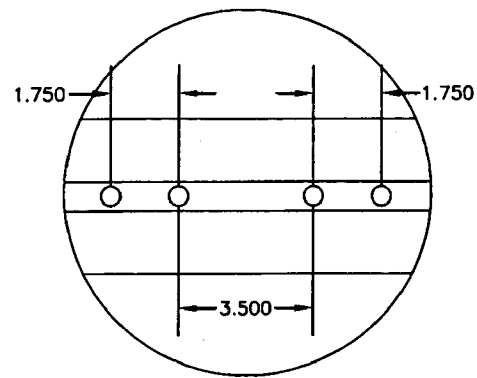
**SHEET 2 OF 3**

CALE

1:24 |

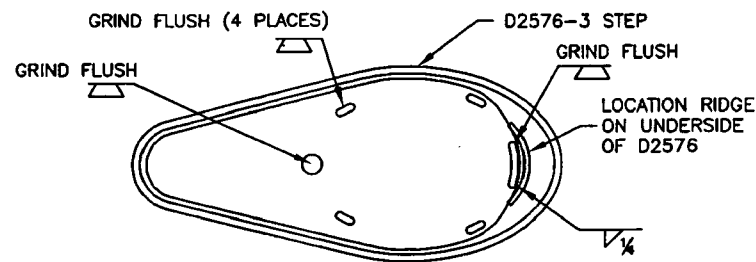


**DETAIL E**  
SCALE 5:24

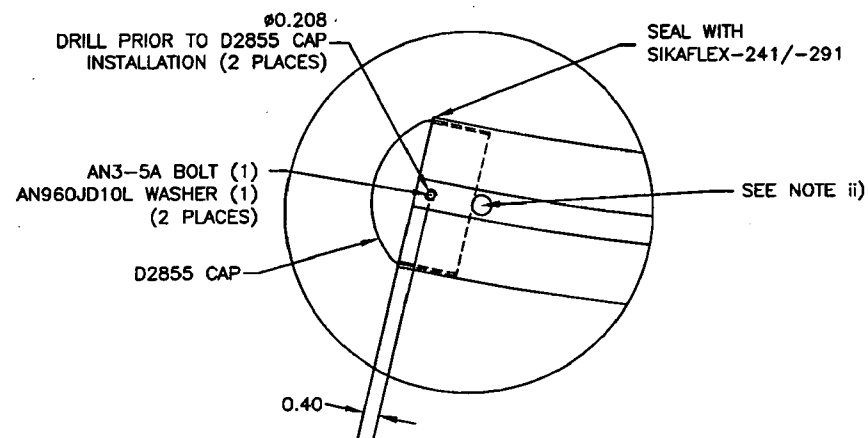


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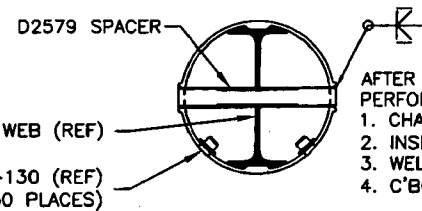
**DETAIL F**  
SCALE 5:24



**DETAIL G**  
SCALE 5:24



**SECTION H-H**  
SCALE 5:24



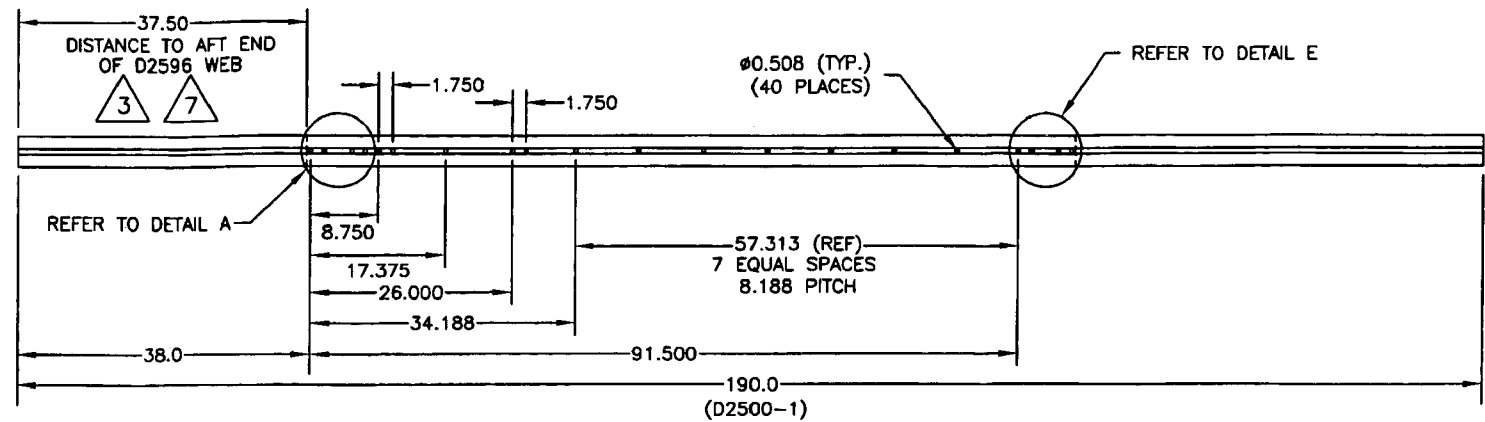
AFTER DRILLING AND BENDING ASSEMBLY PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:  
1. CHAMFER HOLE 0.050 X 45°  
2. INSERT D2579 SPACER (20 PLACES)  
3. WELD INTO PLACE AND GRIND FLUSH  
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

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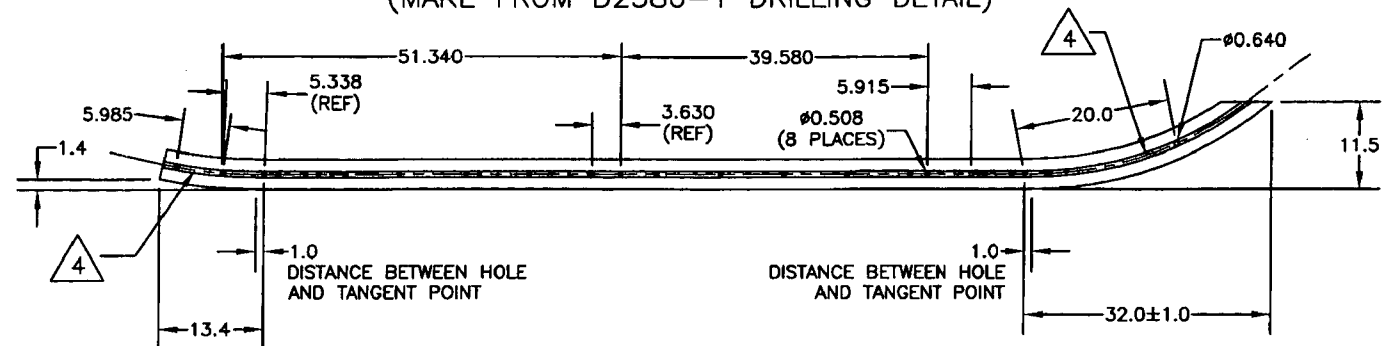
**D2580-045 NOTES**

- i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB  
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3  
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE  
WITH THE SPACER AT THIS LOCATION

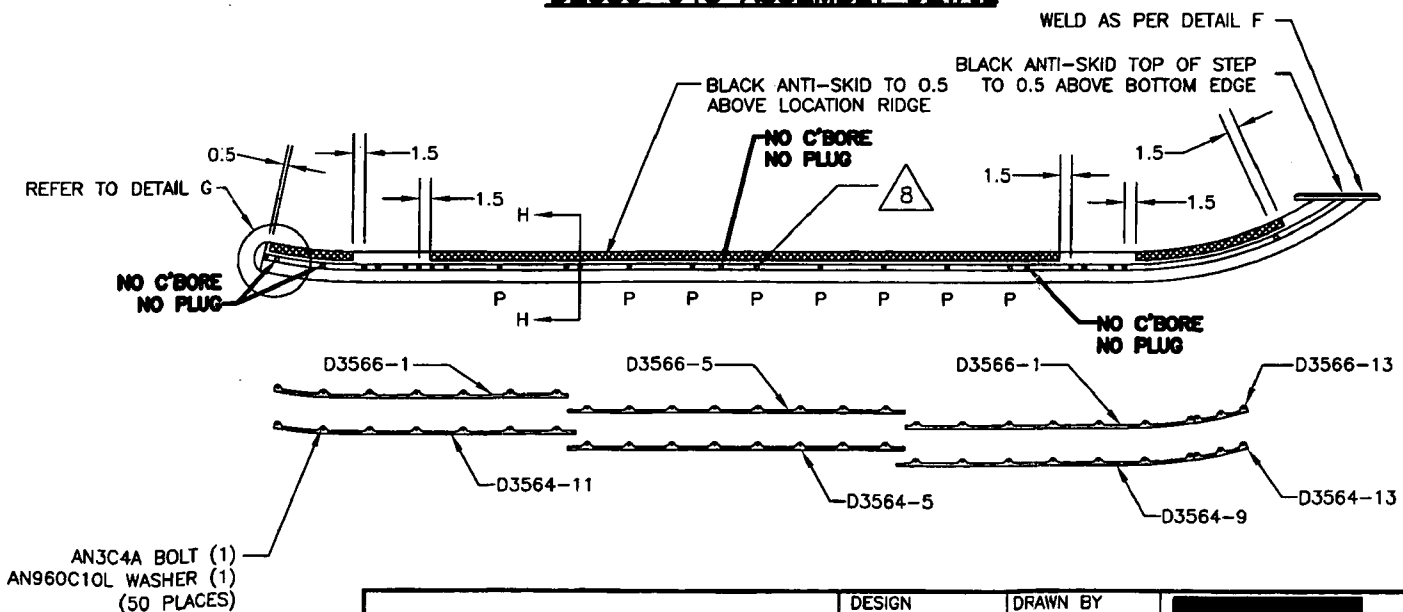
**D2580-1 DRILLING DETAIL**



**D2580-5 BENDING AND CUTTING DETAIL**  
(MAKE FROM D2580-1 DRILLING DETAIL)



**D2580-045 ASSEMBLY DETAIL**



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| CHECKED<br>H     | APPROVED<br>H                  | DRAWING NO.<br>D2580 | REV. D<br>SHEET 3 OF 3                             |
| DATE<br>07.02.27 | TITLE<br>205 SKIDTUBE ASSEMBLY | SCALE<br>1:24        |  |



